

## ABSTRACT

A device and method for the automated storage and retrieval of trays holding subject matter. A computer system is programmed to control a storage gantry to move the trays between a storage rack and an automated machine. In a preferred embodiment, the subject matter in the trays is a plurality of micro-well plates in which microscopic crystals may be growing and the automated machine is configured to inspect and classify microscopic crystals. The automated machine has an indexing device for sequentially placing microscopic crystals in camera-view of a camera and a control computer is programmed to control the indexing device and to cause the camera to take images of the microscopic crystals and then transfer the images to a classifying processor where the images are classified. In a preferred embodiment, the microscopic crystals are protein crystals that have been grown in the wells of micro-well plates.